UNIVERSITI TEKNOLOGI MARA

PREDICTION OF BODY FAT STATUS BY USING NAÏVE BAYES TECHNIQUE AMONG UNIVERSITY STUDENTS

NURFARAH MAZARINA BINTI MAZALAN

BACHELOR OF COMPUTER SCIENCE (HONS.)

JULY 2017

STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my work and that any idea for quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

…….
NURFARAH MAZARINA BINTI MAZALAN
20124216694

JULY 5, 2017

ABSTRACT

Two types of lipid that can be related which are fat and fat-free mass. There are several methods to calculate body fat percentage like numerous formula equations, artificial neural network (ANN) technique and body fat callipers tool by using independent variables (IV) such as gender, age and BMI. All techniques have quite similar and applicable to use since the system is easy to use, require low budget and no surgery involved to predict body fat percentage. However, the performance of existing techniques was unclear due its results. Thus, this project presents a new system solver via prediction model to repeat the research with brand new approach which is Naïve Bayes (NB) in predicting body fat status. The inputs as IV that involves in NB are gender, age and BMI for the basic fat prediction and daily routines' frequencies for the new IV for the new fat prediction model. Throughout the 63 models of testing done, the results gave an average of 70% accuracy from 225 data learnt. Moreover, all the functionality testing results are successfully pass proving the system is well functioned. This research may get a chance to extend by changing the IV, increasing the amount of data set or using other AI techniques to get higher accuracy.

TABLE OF CONTENTS

CHAPTER THREE: RESEARCH METHODOLOGY